



State of Oregon
Department of
Environmental
Quality

State of Oregon Department of Environmental Quality

Beneficial Use of Solid Waste Determination Evaluation Form

Applicant: Safety Kleen	
BUD#: 20180410	
Solid Waste: Ammonium sulfate	
Summary of proposed beneficial use: Used in the manufacture of fertilizer	
Reviewer: Heather Kuoppamaki	Date: 4/24/2018
Tier: <input checked="" type="checkbox"/> One <input type="checkbox"/> Two <input type="checkbox"/> Three	

Beneficial use of solid waste

Beneficial use of solid waste is a sustainability practice that may involve using an industrial waste in a manufacturing process to make another product or using a waste as a substitute for construction materials.

The environmental benefits of substituting industrial waste materials for virgin materials includes conserving energy, reducing the need to extract natural resources and reducing demand for disposal facilities.

Oregon Administrative Rules (OAR) 340-093-0280 - 0290 establish standing beneficial uses and a process for DEQ review of case-specific beneficial use proposals. Under these rules, DEQ may issue a beneficial use determination as an alternative to a disposal permit for proposals that meet the rule criteria. If approved, once a beneficial use determination is issued, DEQ no longer regulates the waste as a solid waste as long as the waste is used in accordance with the approved beneficial use determination.

Beneficial use determination evaluation summary

- Yes, the beneficial use of this solid waste meets all the case-specific performance criteria listed below and is approved.
- No, the beneficial use of this solid waste does not meet all the case-specific performance criteria listed below and is not approved.

Notes: *Safety Kleen accepts waste ammonium sulfate from Intel. The material is generated as a by-product in chip manufacturing. The ammonium sulfate is used by Helena Chemical Company in the manufacture of fertilizer. Ammonium sulfate is a common component of fertilizer.*

Case-specific beneficial use performance criteria:

DEQ may approve an application for a case-specific beneficial use of solid waste only if all the following performance criteria are addressed:

1. Characterization of the Solid Waste;
2. Productive Beneficial Use of the Solid Waste; and,
3. The affect of the Proposed Beneficial Use on Public Health, Safety, Welfare and/or the Environment.

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1. Characterization of the solid waste

Did the applicant characterize the solid waste and proposed beneficial use sufficiently to demonstrate compliance with the rules for case-specific beneficial use determinations (OAR 340-093-0280) by submitting required information for the appropriate tier? (See tier sections below for detailed characterization information.)

Yes No

Notes: *Ammonium sulfate is a common ingredient in fertilizers for alkaline soils. A fertilizer manufacturer is already accepting the material as a replacement for virgin ammonium sulfate.*

Was the following information submitted for DEQ review and how adequate was it?

Tier 1: **Applicable** **Not applicable**

- Did the applicant provide an adequate description of the material proposed for beneficial use, the manner of generation and the estimated quantity to be used beneficially each year?

Yes No

Notes: *The ammonium sulfate is generated by Intel as a by-product of chip manufacturing. Intel generates approximately 408 tons per month that is sent to Safety Kleen. The material is used at Helena Chemical Company in the manufacture of fertilizer product.*

- Did the applicant provide an adequate description of the proposed beneficial use and justify how the proposed use is beneficial?

Yes No

Notes: *The use replaces virgin ammonium sulfate.*

- Did the applicant provide a sufficient comparison of the chemical and physical characteristics of the material proposed for beneficial use with the material it will replace?

Yes No

Notes: *The material replaces the same material.*

- Did the applicant successfully demonstrate compliance of the proposed beneficial use with the performance criteria in OAR 340-093-0280 based on knowledge of the process that generated the material, properties of the finished product, or testing?

Yes No

Notes:

- If required, did the applicant provide any other DEQ required information to evaluate the proposal?

Yes No

Notes: *None required*

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Tier 2: **Applicable** **Not applicable**

Tier 3: **Applicable** **Not applicable**

2. Productive beneficial use of the solid waste

Has the applicant demonstrated that the proposed beneficial use is a productive use of the material by providing information substantiating the criteria listed below?

Yes No

Notes: *The material is directly replacing the same material in virgin form.*

- Did the applicant successfully identify or demonstrate a reasonably likely proposed beneficial use for the material that is not speculative?
 Yes No
- The applicant is a port district and has demonstrated the proposed use is upland placement of dredged material in accordance with Senate Bill 412.
 Yes No

This criterion consists of three parts.

1. Identified use:

Has the applicant clearly stated what the waste is going to be used for, that the waste is compatible with that use and the proposed quantity is necessary?

Yes No

2. Reasonably likely use:

Has the applicant identified, with supporting documentation, the timeframe within which this use is likely to occur (e.g., zoning info, master plan for development, letters from local jurisdictions, etc)?

Yes No

3. Not speculative:

For land application - has this material been used at other sites for the same purpose, is the material feasible for use at this site for this purpose, or has the applicant identified a known potential for this use at this site?

Yes No N/A

For uses other than land application - has the material been used in a product before, is the material feasible for use in a product, or has the applicant identified a known potential for use in this product?

Yes No N/A

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Notes: *The ammonium sulfate generated by Intel during chip manufacturing is replacing virgin ammonium sulfate in the manufacture of fertilizer.*

- Is the use a valuable part of a manufacturing process, an effective substitute for a valuable raw material or commercial product, or otherwise authorized by the Department and does not constitute disposal?

Yes No

Notes:

- Is the use in accordance with applicable engineering standards, commercial standards, and agricultural or horticultural practices?

Yes No

Notes:

3. Effect of proposed beneficial use on public health, safety, welfare and/or the environment

Has the applicant demonstrated the proposed beneficial use will not create an adverse impact to public health, safety, welfare, or the environment, by providing information substantiating compliance with the criteria listed in the bullet list below?

Yes No

Notes:

- Has the applicant demonstrated that the material is not a hazardous waste under ORS 466.00?

Yes No

Notes:

- Has the applicant demonstrated that until the time this material is used according to a beneficial use determination, the material will be managed, including any storage, transportation, or processing, to prevent releases to the environment or nuisance conditions?

Yes No

Notes: *The material is stored in closed tanks onsite.*

- Has the applicant demonstrated that hazardous substances in the material, if any, meet one of the criteria in the bulleted list below?

Yes No N/A

- Hazardous substances do not significantly exceed the concentration in a comparable raw material or commercial product;
- Hazardous substances do not exceed naturally occurring background concentrations; or
- Hazardous substances will not exceed acceptable risk levels, including persistence and potential bioaccumulation, when the material is managed according to a beneficial use determination.

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Notes: *No hazardous substances.*

- Has the applicant demonstrated that the proposed beneficial use will not result in the increase of a hazardous substance in a sensitive environment, such as a park, wildlife refuge or wetland?

Yes No

Notes:

- Has the applicant demonstrated that the proposed beneficial use will not create objectionable odors, dust, unsightliness, fire, or other nuisance conditions?

Yes No

Notes:

- Has the applicant indicated that the proposed beneficial use will comply with any other applicable federal, state, and local regulations?

Yes No

Notes:

4. Public Involvement Evaluation (Note: this is not a Beneficial Use evaluation criterion)

Determine a public involvement recommendation using the current, Guidance to DEQ Solid Waste Program Staff and Managers on Public Notice and Participation.

- Is public notice and participation being recommended for this application?

Yes No

Notes: *There is no known public interest in this use.*